

Master and PhD Program Computational Neuroscience Recommended Courses and Programs, WiSe 2018/2019

These courses are recommended for **senior master students** of Computational Neuroscience (at least in their 3rd semester) and for **PhD students** as Courses on Advanced Topics / Hard Skill Courses. We recommend that master students in the 1st and 2nd semesters concentrate on the compulsory BCCN courses:

<http://www.bccn-berlin.de/Teaching/Courses+and+Modules/>

Please choose courses for Individual Studies and Advanced Topics **upon consultation with your mentor!** Only master courses can be recognized for Courses on Advanced Topics.

This list as well as the list of relevant summer schools and conferences is available at:

http://www.bccn-berlin.de/Graduate+Programs/Web_Links/

For questions and feedback: graduateprograms@bccn-berlin.de

As not all offered courses of Berlin universities are online yet, this is a preliminary version of the list. All courses highlighted in yellow are courses which were offered in WiSe 2017/18, without confirmation that they will be offered in the coming winter term again.

TITLE	CONTACT	LINK and INFO
TU Berlin		
Current Topics in Computational Neuroscience (seminar series, in English)	Prof. Henning Sprekeler, h.sprekeler@tu-berlin.de	TU Berlin Current Topics Computational Neuroscience
Cognitive Algorithms (Lecture + Tutorial, in English)	Prof. Klaus-Robert Müller (klaus-robert.mueller@tu-berlin.de), Stephanie Brandl (stephanie.brandl@tu-berlin.de)	TU Berlin Cognitive Algorithms
Applications of Cognitive Algorithms (block seminar, in English)	Prof. Klaus-Robert Müller (klaus-robert.mueller@tu-berlin.de), Irene Winkler (irene.winkler@tu-berlin.de)	TU Berlin Applications of Cognitive Algorithms
Classical Topics in Machine Learning (lecture, in English)	Prof. Klaus-Robert Müller (klaus-robert.mueller@tu-berlin.de), Pieter-Jan Kindermans, (wojwoj@mail.tu-berlin.de)	TU Berlin Classical Topics in Machine Learning
Neural Networks (block seminar, in English)	Prof. Klaus-Robert Müller (klaus-robert.mueller@tu-berlin.de), Gregoire Montavon, (gregoire.montavon@tu-berlin.de)	TU Berlin Neural Networks
Python Programming for Machine Learning (in English)	Prof. Klaus-Robert Müller (klaus-robert.mueller@tu-berlin.de)	TU Berlin Python Programming for Machine Learning

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	tu-berlin.de Gregoire Montavon, (gregoire.montavon@tu-berlin.de)	
Mathematische Grundlagen für Maschinelles Lernen (in German)	Prof. Klaus-Robert Müller (klaus-robert.mueller@tu-berlin.de), Stefanie Brandl, stephanie.brandl@tu-berlin.de	TU Berlin Mathematische Grundlagen für Maschinelles Lernen
Machine Learning and Data Management (seminar, in English)	Prof. Klaus-Robert Müller (klaus-robert.mueller@tu-berlin.de), Prof. Dr. Volker Markl volker.markl@tu-berlin.de Shinichi Nakajima nakajima@tu-berlin.de	TU Berlin Machine Learning and Data Management
Projects in Machine Learning and Artificial Intelligence (German/English)	Prof. Manfred Opper (manfred.opper@tu-berlin.de) Cordula Lippke cordula.lippke@tu-berlin.de	TU Berlin Projects in Machine Learning
Künstliche Intelligenz: Grundlagen und Anwendungen (lecture + seminar, in German)	Prof. Dr. Manfred Opper (manfred.opper@tu-berlin.de) Prof. Sahin Albayrak (sahin.albayrak@tu-berlin.de) Dr. Stefan Fricke, stefan.fricke@tu-berlin.de Sebastian Thiel sebastian.thiel.1@campus.tu-berlin.de Cordula Lippke cordula.lippke@tu-berlin.de	TU Berlin Künstliche Intelligenz - Grundlagen und Anwendungen
Anwendungen der Künstlichen Intelligenz (seminar, in German)	Prof. Dr. Manfred Opper (manfred.opper@tu-berlin.de), Andreas Ruttor (andreas.ruttor@tu-berlin.de)	TU Berlin Anwendungen Künstliche Intelligenz
KI-Forschung (project, in German)	Dr. Stefan Fricke, stefan.fricke@tu-berlin.de	TU Berlin KI-Forschung
Suggestion Project KI - symbolische Künstliche Intelligenz	Dr. Stefan Fricke, stefan.fricke@tu-berlin.de	TU Berlin KI Projekt
Applications of Robotics and Autonomous Systems / (Project, in English)	Prof. Henning Sprekeler h.sprekeler@tu-berlin.de Cathrin Bunkelmann cognition@tu-berlin.de	TU Berlin Künstliche Intelligenz RoboCup
Robotics - Robotics (in German) - Computational Biology (in English)	Prof. Oliver Brock oliver.brock@tu-berlin.de	TU Berlin Robotics

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- Robotics Project (in German)		
Brain-Computer-Interfacing (seminar, in English)	Prof. Dr. Benjamin Blankertz , Daniel Miklody miklody@tu-berlin.de	TU Berlin Brain Computer Interfacing
Current Topics in Brain-Computer-Interfacing (seminar, in German)	Prof. Dr. Benjamin Blankertz , Daniel Miklody miklody@tu-berlin.de	TU Berlin Current Topics Brain-Computer Interfacing
Computer Vision and Remote Sensing - Digital Image Processing - Photogrammetric Computer Vision - Stereobildverarbeitung in der Videobildkommunikation - Optical Remote Sensing - Projects: Hot Topics in Computer Vision	Secretary: marion.dennert@tu-berlin.de	TU Berlin Computer Vision Remote Sensing
Signalverarbeitung (lecture + tutorial, in German)	Prof. Reinhold Orglmeister, (reinhold.orglmeister@tu-berlin.de)	TU Berlin Signalverarbeitung
Neuronale Netze (seminar, in German)	Prof. Reinhold Orglmeister, (reinhold.orglmeister@tu-berlin.de)	TU Berlin Neuronale Netze
Quality and Usability Lab - Sprachkommunikation / Speech Communication - Medieninformatik Einführung - Computer-supported Interaction - Communication Acoustics (MOOC) - Usable Privacy - Biometric Identification and Verification - Affective Computing - Neuro-Usability - Study Project Quality and Usability - Medienprojek (Modul: Interdisziplinäres Medienprojekt) - Forschungskolloquium Usability	Prof. Sebastian Möller (sebastian.moeller@telekom.de)	TU Berlin Quality and Usability Lab
Nichtlineare Dynamik und stochastische Prozesse (German-English)	Dr. Anna Zakharova, (anna.zakharova@tu-berlin.de)	TU Berlin Nichtlineare Dynamik und Strukturbildung

TITLE	CONTACT	LINK and INFO
Control of complex systems and networks / Nichtlineare Dynamik in komplexen Systemen (seminar, in English)	Prof. Eckehard Schöll, (eckehard.schoell@tu-berlin.de)	TU Berlin Control of Complex Systems and Networks
Nichtlineare Dynamik in Komplexen Systemen (seminar, in English)	Prof. Eckehard Schöll, (eckehard.schoell@tu-berlin.de)	TU Berlin Nichtlineare Dynamik
Nichtlineare Dynamik und Strukturbildung (seminar, in German)	Prof. Harald Engel (harald.engel@tu-berlin.de)	TU Berlin Nichtlineare Dynamik und Strukturbildung
Kolloquium des SFB 910: Control of Self-Organizing Nonlinear Systems (in English)	Prof. Eckehard Schöll (eckehard.schoell@tu-berlin.de) Prof. Dr. Sabine Klapp Roland Aust roland.aust.1@tu-berlin.de	TU Berlin Symposia SFB 910 <i>Link for the WiSe 17/18 will be updated soon</i>
Statistische Physik weicher Materie und biologischer Systeme	Prof. Holger Stark, (holger.stark@tu-berlin.de)	TU Berlin Statistische Physik weiche Materie biologische Systeme
HU Berlin		
Suggestion by Pawel Romanczuk: Introduction to Complex Systems	Prof. Dirk Brockmann dirk.brockmann@hu-berlin.de	HU Berlin Introduction to Complex Systems
Embodied Artificial Intelligence (in German, Lecture + Seminar)	Prof. Verena Hafner, hafner@informatik.hu-berlin.de	HU Berlin Embodied Artificial Intelligence
Anwendungen der Signalverarbeitung und Mustererkennung (Seminar, in German)	Prof. Beate Meffert, meffert@informatik.hu-berlin.de	HU Berlin Signalverarbeitung
Algorithmische Bioinformatik (in German)	Prof. Dr. Ulf Leser, leser@informatik.hu-berlin.de	HU Berlin Algorithmische Bioinformatik
Computational Analysis of Biomedical High-Throughput Data Sets (seminar, in German)	Prof. Dr. Ulf Leser, leser@informatik.hu-berlin.de	HU Berlin Computational Analysis of Biomedical High-Throughput Data Sets
Computational Neuroscience (seminar, in English)	Prof. Dr. Richard Kempfer, r.kempfer@biologie.hu-berlin.de	HU Berlin Seminar Computational Neuroscience
Kolloquium Sinnes- und Verhaltensphysiologie (colloquium, in German)	HU, Prof. Bernd Ronacher bernhard.ronacher@rz.hu-berlin.de	HU Berlin Kolloquium Sinnes-/ Verhaltensphysiologie
Verhaltens-, Sinnes- und Neurophysiologie (Practical, in German)	HU, Prof. Bernd Ronacher bernhard.ronacher@rz.hu-berlin.de	HU Berlin Verhaltens-, Sinnes- und Neurobiologie
Neurophysiologie (lecture, in German)	Prof. Matthias Hennig matthias.hennig@biologie.hu-berlin.de	HU Berlin Neurophysiologie
Mathematische Modellierung biologischer Systeme (practical, in German)	Prof. Dr. Edda Klipp, edda.klipp@rz.hu-berlin.de	HU Berlin Mathematische Modellierung biologische Systeme

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Mathematische Grundlagen der Biologie (in German)	Prof. Hanspeter Herzel, h.herzel@cms.hu-berlin.de	HU Berlin Mathematische Grundlagen Biologie
Mathematische Modellierung in der quantitativen Biologie (lecture + seminar, in German)	Prof. Hanspeter Herzel, h.herzel@cms.hu-berlin.de Prof. Nils Blüthgen, nils.bluehgen@charite.de	HU Berlin Mathematische Modellierung quantitative Biologie
Computerübungen Simulation von mathematischen Modellen	Prof. Nils Blüthgen, nils.bluehgen@charite.de	HU Berlin Computerübungen Simulation von mathematischen Modellen
Advanced mathematical methods in biology (seminar, in English)	Dr. Jan-Hendrik Schleimer, jh.schleimer@hu-berlin.de	HU Berlin Advanced Mathematical Methods in Biology
Electrical Field Potentials (seminar, in English)	Dr. Michiel Remme, michiel.remme@hu-berlin.de	HU Berlin Electrical Field Potentials
Cognition, behaviour and evolution (block seminar, in English)	Prof. York Winter, york.winter@charite.de	HU Berlin Cognition Behaviour Evolution
Operant behaviour and decision making (block seminar, in English)	Prof. York Winter, york.winter@charite.de	HU Berlin Operant Behaviour Decision Making
Cognitive Neurobiology: current topics (seminar, in English)	Prof. York Winter, york.winter@charite.de	HU Berlin Current Topics Cognitive Neurobiology
IRTG 1360: Genomics and Systems Biology of Molecular Networks (Colloquium, in German-English)	Prof. Dr. Edda Klipp, edda.klipp@rz.hu-berlin.de	HU Berlin Genomics and Systems Biology of Molecular Networks
Grundlagen und Anwendungen der Kognitionspsychologie (lecture, in German)	Prof. Elke van der Meer, vdmeer@rz.hu-berlin.de	HU Berlin Grundlagen Anwendungen Kognitionspsychologie
Neurowissenschaftliche Methoden (lecture + seminar, in German)	Dr. Olaf Dimigen, olaf.dimigen@hu-berlin.de	HU Berlin Neurowissenschaftliche Methoden
Kognitionswissenschaft I (lecture series, in German)	Prof. Dr. rer. nat. Abdel Rahman, rasha.abdel.rahman@psychologie.hu-berlin.de	HU Berlin Ringvorlesung Kognitionswissenschaft
Neuropragmatik: Gedächtnis und Sprache (seminar, in German)	Prof. Dr. Martin Rolfs martin.rolfs@hu-berlin.de	HU Berlin Neuropragmatik - Predictions in an uncertain world
Dynamische Systeme: Nichtlineare Dynamik (lecture + seminar, in German)	Dr. Michael Zaks zaks@math.hu-berlin.de	HU Berlin Dynamische Systeme
Komplexe Netzwerke – Theorie und Anwendungen (lecture + seminar, in German)	Prof. Jügen Kurths, kurths@pik-potsdam.de	HU Berlin Komplexe Netzwerke Theorie und Anwendungen
Nichtlineare Dynamik und Komplexe Netzwerke im Erdsystem (in German)	Dr. Reik Donner, reik.donner@pik-potsdam.de	HU Berlin Nichtlineare Dynamik und Komplexe Netzwerke im Erdsystem
Irreversible Prozesse und Selbstorganisation (seminar, in German)	Prof. Igor Sokolov, igor.sokolov@physik.hu-berlin.de Prof. Benjamin Lindner, benjamin.lindner@physik.hu-berlin.de	HU Berlin Irreversible Prozesse Selbstorganisation
Seminar zur nichtlinearen Dynamik und statistischen Physik	Prof. Benjamin Lindner, benjamin.lindner@physik.hu-berlin.de	HU Berlin Nichtlineare Dynamik Statistische Physik

TITLE	CONTACT	LINK and INFO
(seminar/ colloquium, in German)	berlin.de Prof. Igor Sokolov, igor.sokolov@physik.hu-berlin.de Prof. Lutz Schimansky-Geier, lutz.schimansky-geier@hu-berlin.de	
Grundlagen der Physik von Makromolekülen und molekularen Systemen (lecture + tutorial, in German)	Prof. Jürgen B. Rabe, rabe@physik.hu-berlin.de Prof. Matthias Ballauff, matthias.ballauff@helmholtz-berlin.de	HU Berlin Einführung Physik Makromoleküle Komplexe Systeme
Multivariate Statistical Analysis I (lecture, in English)	Prof. Andrija Mihoci	HU Berlin Multivariate Statistical Analysis
Mathematical statistics (seminar, in English)	Prof. Wolfgang Härdle, haerdle@wiwi.hu-berlin.de Prof. Vladimir Spokoiny, spokoiny@wias-berlin.de	HU Berlin Mathematical Statistics
Datenanalyse II (Seminar, German)	Dr. Sigbert Klinke, sigbert@wiwi.hu-berlin.de	HU Berlin Datenanalyse
FU Berlin		
Neurobiologie und Verhalten A und B (block course, in German)	Prof. Constance Scharff, constance.scharff@fu-berlin.de	FU Berlin Neurobiologie und Verhalten
Structure and Function of Neural Circuits I and II (block seminar, in English)	Prof. Dr. Mathias Wernet, mathias.wernet@fu-berlin.de	FU Berlin Structure and Function of Neural Circuits
Entwicklungsneurobiologie (block seminar + practical, in German-English)	Prof. Fritz Rathjen, rathjen@mdc-berlin.de	FU Berlin Entwicklungsneurobiologie
Robotics (lecture + seminar, in German-English)	Dr. Daniel Goehring, drgoehring@zedat.fu-berlin.de	FU Berlin Robotics
Künstliche Intelligenz – autonome Fahrzeuge (seminar, in German)	Dr. Daniel Goehring, drgoehring@zedat.fu-berlin.de	FU Berlin Künstliche Intelligenz autonome Fahrzeuge
Suggestion: Artificial and Collective Intelligence (Forschungsseminar, German/English)	Prof. Dr. Tim Landgraf tim.landgraf@fu-berlin.de	FU Berlin Artificial and Collective Intelligence
Journal Club Computational Biology (seminar, in German-English)	Prof. Knut Reinert, knut.reinert@fu-berlin.de	FU Berlin Journal Club Computational Biology
Einführung in die Neurobiologie und Neuroinformatik für Bioinformatiker (lecture, in German)	Prof. Dr. Peter Robin Hiesinger, p.rh@fu-berlin.de	Einführung Neurobiologie Neuroinformatik
Statistik (lecture + tutorial, in English)	Prof. Dr. Heike Siebert, siebert@mi.fu-berlin.de	FU Berlin Statistik

TITLE	CONTACT	LINK and INFO
	Prof. Dr. Annalisa Marsico annalisa.marsico@fu-berlin.de	
Optimierung (lecture + seminar, in English)	Prof. Alexander Bockmayr, alexander.bockmayr@fu-berlin.de	FU Berlin Optimierung
Numerik für Bioinformatiker (lecture + seminar, in English)	Dr. Vikram Sunkara sunkara@@mi.fu-berlin.de	FU Berlin Numerik für Bioinformatiker
Klinische Neuropsychologie (seminar, in German)	Prof. Dr. Michael Niedeggen niedegg@zedat.fu-berlin.de	FU Berlin Klinische Neuropsychologie
Master Program SCAN (Social, Cognitive, Affective Neuroscience), in English Modules: - Social, Cognitive & Affective Neuroscience - Clinical SCAN - Statistical Methods - Applied Programming - Learning Memory & Decision Making - Advanced Neurocognitive Methods I & II	Dr. Jana Lüdtker, jana.luedtke@fu-berlin.de Prof. Hauke Heekeren, hauke.heekeren@fu-berlin.de	http://www.ewi-psy.fu-berlin.de/studium/Psychologie/social_cognitive_affective_neuroscience/_Modules/index.html FU Berlin SCAN all courses

Courses offered by other schools and graduate programs in Berlin

Master Program Molecular Medicine Human Genetics Functional Genomics Developmental Genetics Infections and Immune Response Cardiovascular Diseases and Therapy Cancer Diseases Maintenance and Integrity of the Endocrine System	Dr. Sarah Bhargava sarah.bhargava@charite.de or http://www.molecular-medicine-berlin.com/en/metas/contact/adresse/bhargava-2/	http://www.molecular-medicine-berlin.com/en/program/modules/ Please contact the project coordinator for information about currently offered courses.
Berlin School of Mind and Brain (PhD and master courses) Modules: - Neuroanatomy and Neurophysiology - Neuroimaging - Cognitive Neuroscience - Basic Philosophical Concepts and Philosophy of Mind - Computational Neuroscience & Statistics - Cognitive Neuroscience - Lifespan and Plasticity - Clinical Neuroscience - Ethics and Neuroscience	mb-office@hu-berlin.d emb-education@hu-berlin.de	Mind & Brain Master all courses Mind & Brain Doctoral Program Overview Please note that the courses flagged as “for mind and brain students only” cannot be attended by external students. If you are a student of Humboldt-Universität zu Berlin, please register for the Master courses in the Überfachlicher Wahlpflichtbereich section of AGNES. If you are a student of another university, please print out the Registration as guest auditor / visiting student form . This form will have to be signed by the lecturer of the class you plan to attend as well as by the Master’s program coordinator. From this semester on, there is only one way to get credits in the Mind and Brain program: - You have to attend *two courses* (at least 75 % of all sessions) = *10 ECTS* - In both courses you have to fulfill smaller class requirements (usually a presentation) - In ONE of the two courses additionally you have to write a 20 p. paper (1 page equals 2000 characters without spaces) You don't have to attend both courses in the same semester!

TITLE	CONTACT	LINK and INFO
<ul style="list-style-type: none"> - Language and the Brain - Research Methods 		
<p>Berlin Mathematical School Basic Courses and Advanced Courses covering the following topics:</p> <ul style="list-style-type: none"> - Differential geometry, global analysis, and mathematical physics - Algebraic and arithmetic geometry, number theory - Probability, statistics, and financial mathematics - Discrete Mathematics and combinatorial optimization - Geometry, topology and visualization - Numerical analysis and scientific computing - Applied analysis and differential equations 	<p>TU, HU, FU office@math-berlin.de</p>	<p>BMS Basic Courses BMS Advanced Courses</p>
<p>Master Program Medical Neurosciences Basic Neurobiology Working with Data Neurophysiology Advanced Problems and Topics in Neuroscience Clinical Neuroscience Academic Writing and Publishing Experimental Design</p>	<p>Charité Dr. Benedikt Salmen benedikt.salmen@charite.de</p>	<p>http://www.medical-neurosciences.de/en/program/master/ Please contact the contact person for information about currently offered courses.</p>